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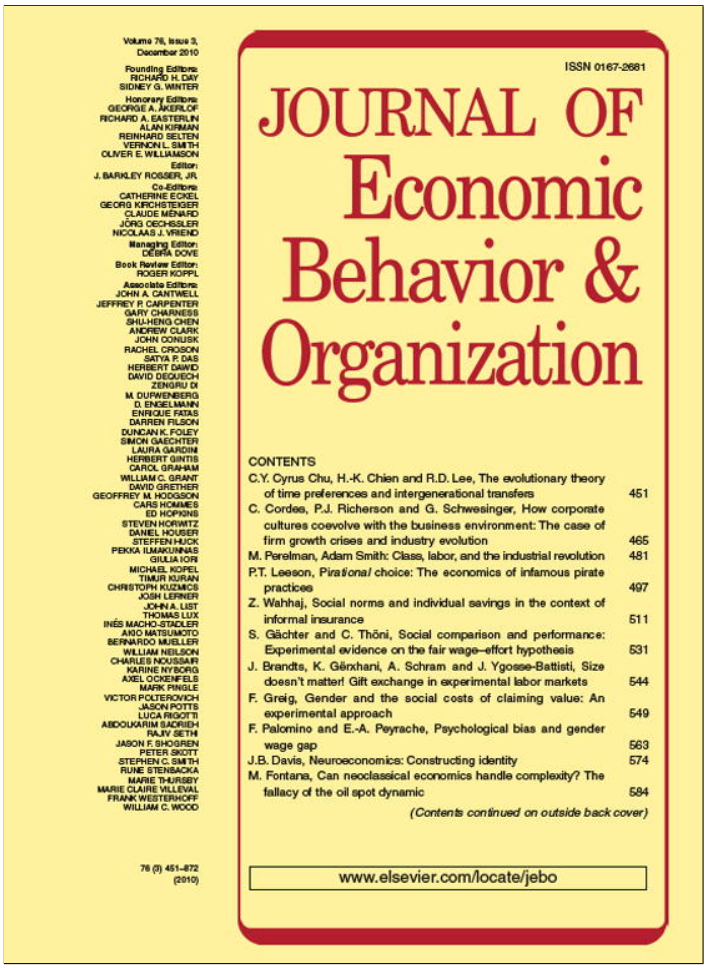

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Cultural differences between East and West Germany after 1991: Communist values versus economic performance?

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ABSTRACT

Two decades after reunification substantial economic disparities between East and West Germany remain. With formal institutions being equalized, a typical explanation is that the partition of Germany created differences in economic values and attitudes that continue to feed differences in economic performance. Empirical work using values surveys to investigate the extent to which values differ between East and West has thus far produced mixed findings. We use individual-level panel data to assess East and West German value preferences by investigating how individuals from each group differentially transform situational factors into happiness. This novel method of assessing value differences shows that preferences indeed vary between East and West Germans. However, this variation is not in line with the differences associated with the gap in economic performance; if anything, Easterners appear to entertain values more conducive to economic growth. This suggests that the belief that economic differences between Eastern and Western Germany are a result of a Communist cultural legacy may be largely a myth.

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1. Introduction

The view that values and informal institutions are a cause of differences in economic performance between countries and regions is growing in popularity (Franke et al., 1991; Granato et al., 1996; Harrison, 1992; Jackman and Miller, 1996; McCleary and Barro, 2006; Noland, 2005; North, 1990; Pryor, 2005; Swank, 1996; Williamson, 2000). Reunified Germany offers an excellent test case for this argument. Almost two decades after political and formal institutional reunification, economic performance in Eastern Germany is still considerably below West German standards (Boltho et al., 1997; Sinn and Westermann, 2001; Sinn, 2002; Hall and Ludwig, 2006; Snower and Merkl, 2006; Uhlig, 2006, 2008). The most recent data show that in 2009 labor productivity in Eastern Germany as a whole still stood at less than 80% of the German average (Statistisches Ämter des Bundes und der Länder, 2010), while the unemployment rate in the East is 13%, almost double that in the West (Federal Statistical Office Germany, 2010). An oft-heard explanation for this continuing gap is that a so-called "wall

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in the head" still separates East and West Germans: persistent differences in the values held by Easterners and Westerners are thought to create divergent economic outcomes.[2]

In this paper, we investigate whether four decades of separation have indeed resulted in structural differences in values that are capable of causing the observed economic divergence. We do so following a novel method to measure values differences which focuses on differences in the determinants of subjective well-being (SWB) or happiness. Estimating the effects of such factors as income, job and marital status, known to be strongly related to happiness, we are able to construct happiness ("utility") functions for the representative East and West German inhabitant. If there are important differences in value preferences between East and West, we expect these functions to exhibit substantial heterogeneity. Previous applications of this approach have shown, among other things, that left-wing individuals care more about unemployment and less about inflation relative to right-wing individuals (Di Tella and MacCulloch, 2005) and that religious individuals value income less than non-religious individuals do (Lelkes, 2006).

We use data from the German Socio-Economic Panel (GSOEP) for the period 1991–2006. Most respondents are sampled more than once, allowing us to apply multilevel modeling and simultaneously account for within-subject and between-subject variance. Our results show that East Germans and West Germans indeed portray important differences in values. However, an economically debilitating Communist legacy in the form of values that are not conducive to economic performance appears largely absent. The differences between East and West that we find are often contrary to what we would expect from the literature on values and economic development.

These results indicate that any relation between values and economic performance is more complex than often understood. Economic divergence seems not simply reducible to differences in values. For the debate about transition of formerly planned economies, this would suggest that a cultural transition is not necessarily part of the process of becoming a market economy. In addition, our paper contributes to the literature about measuring cross-cultural differences in values. Empirical research into values differences in general, and the "wall in the head" thesis in particular, relies mostly on survey questions to measure differences in values. The interpretation of survey scores as eliciting values has come under heavy fire recently (Clarke et al., 1999; Davis et al., 1999; Duch and Taylor, 1993; Maseland and van Hoorn, 2009) and has provided ambiguous results in the case of East and West Germany (Shiller et al., 1991, 1992; Corneo and Grüner, 2002; Alesina and Fuchs-Schündeln, 2007). Our use of heterogeneous happiness functions shows that an approach focusing on group variation in the way in which situational factors are transformed into happiness can be successfully applied to measure differences in value preferences.

The remainder of this paper is organized as follows. The next section elaborates the relation between culture and economic performance, discussing empirical work on the influence of Communism on cultural values and the limitations of this approach to the study of preferences. Section 3 introduces the happiness function-based approach to the measurement of preferences and states the hypotheses concerning a potential Communist value legacy in terms of East–West variation in the structure of happiness. In Section 4, we discuss the data used and our empirical strategy. Section 5 presents the results of our analysis. We discuss our findings and relate them to economic convergence in Germany since the reunification in Section 6.

2. Market values and economic performance

2.1. Cultural differences and economic performance

The literature relating values to economic performance can be traced back to Max Weber's *The Protestant Ethic and the Spirit of Capitalism* (Weber, 1930 [1904/5]). In this seminal contribution, Weber sought to explain the motivation behind the entrepreneurial behavior that characterizes modern capitalism, arguing that an ascetic, rational pursuit of worldly success was what drove capitalist entrepreneurs. Since then, many authors have followed Weber's quest to identify the kind of attitudes required for entrepreneurship. The most famous contribution is probably the one by McClelland (1961), arguing that an attitude he called "Need for Achievement" drove entrepreneurship and economic development. McClelland's claim has been tested various times with mixed results (Beugelsdijk and Smeets, 2008; Frey, 1984; Gilleard, 1989; Granato et al., 1996). Over time, the list of attitudes that have been said to set entrepreneurs apart has grown longer and longer to include such values as autonomy, individualism, materialism, a propensity to social recognition and risk taking, along with the classic need for achievement (e.g. Brandstätter, 1997; Brockhaus, 1982; Cramer et al., 2002; Cromie, 2000; Fagenson, 1993; Morris et al., 1994; Spence, 1985; Thomas and Mueller, 2000).

Authors outside the entrepreneurship literature have also sought to relate values to successful economic development. Following another strand in Weber's work, work ethic has been identified as one of the main factors responsible for economic prosperity (Delacroix and Nielsen, 2001; Lynn, 1991).[3] Next to a preference for work, a willingness to sacrifice short-term profits for long-term growth and to invest in education have been proposed as important drivers of development, especially

[2] The phrase "wall in the head" stems from the German "Mauer im Kopf", and is commonly used to refer to East–West differences in values (see, for example, Corbett, 2004, Häder and Häder, 1995, and Wagner, 1999).

[3] It may be noted that Weber himself discussed value traits underpinning the historical emergence of capitalism, but never made an explicit link with economic performance.

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in East Asia (Bond, 1988). Interestingly, among the authors focusing on development in Asia, there seems to be a consensus that collectivism rather than individualism is important for economic success (Harrison, 1992), which goes against prevalent ideas in the entrepreneurship literature. Likewise, in the literature seeking to establish cultural underpinnings of economic development in Asia, authors only rarely identify risk-taking as an important value. Apart from these differences, most of the work in this area confirms the insights from Western-oriented studies that identify values such as work ethic, materialism, a propensity to invest in education, and social recognition as prime values for development.

2.2. The Communist legacy and economic performance: a wall in the head?

Many of the above-mentioned value traits may have been discouraged under Communist rule. The idea that decades of Communist rule left a heritage in the minds of people that could hamper economic development is as old as the collapse of Communism itself. Already in May 1990—even before the formal conclusion of the German reunification in early October—Shiller et al. (1991) conducted a telephone survey of random samples of the Moscow and New York populations. They sought to examine the extent to which Soviet respondents differed from their American counterparts on economic attitudes. A year later, Shiller et al. (1992) expanded their original study, adding a comparison between East and West Germany. These early efforts to find empirical support for the idea that those living in formerly Communist societies would lack the attitudes needed to be successful in market economies were discouraging for those seeking a role for attitudinal factors. No significant differences were found between the populations living in formerly Communist societies and those that grew up in market economies. Although there were profound differences in behavior, these differences could not be linked to values. Instead, situational factors—factors such as the perception of economic institutions, economic expectations, and expectations about how other people will react to one's actions—were sufficient to explain them. More recently, Brodbeck and Frese (2007) argue that East and West German cultures are very much alike and characterized by the same values and attitudes. Other studies such as Corneo and Grüner (2002) and Alesina and Fuchs-Schündeln (2007) do find (limited) evidence of differences in attitudes, however. The first authors compare self-reported preferences for redistribution and inequality in six Western countries with those of six ex-Communist countries. Corneo and Grüner (2002) find that attitudinal factors play some role in explaining preferences for redistribution, although they argue that rational self-interest is the major determinant of support for governmental reduction of income inequality. Alesina and Fuchs-Schündeln (2007) present the strongest claim yet that East and West Germans have grown to hold different values. Based on a comparison of responses to survey questions about the desired role of the state in 1997 and 2002, they conclude that significant differences in values and attitudes exist, although they are slowly disappearing.

In addition to the lack of unambiguous results, there are reasons to treat the "wall in the head" thesis with a healthy dose of skepticism. We note that the thesis has a slightly uncanny resemblance with ideas that have been popular with colonial era-thinkers about development. The proposition that East Germans lack traits such as "entrepreneurial spirit", "motivation", and the willingness "to assume responsibility" (Shiller et al., 1992, p. 127) vaguely echoes ideas and myths about lazy and irresponsible natives that have been used to justify colonial domination, among others (Alatas, 1977). It also reflects a perspective on culture as something static and homogeneous that has long been discarded in cultural analysis (e.g. Appadurai, 2006; Fox, 1985). Dichotomous oppositions between East and West Germans underlying the "wall in the head" thesis are too simplistic; although East Germans differ from Westerners in some aspects, they are alike in many others (Pryor, 2005). Moreover, as Shiller et al. (1991, 1992), and Corneo and Grüner (2002) argue regarding formerly Communist countries, the attitudinal explanation for differences in performance might be superficial—a closer look can reveal a rationality behind differences in behavior. This is also in line with the work showing that values survey scores are highly sensitive to changes in (economic) circumstances and contexts, even to the extent that they do not measure deep-rooted value traits but capture marginal preferences (depending on levels of satiation) instead (Clarke et al., 1999; Davis et al., 1999; Duch and Taylor, 1993; Maseland and van Hoorn, 2009). All this gives ample reason to treat the "wall in the head" thesis with due caution.

3. East–West differences in market values

3.1. Heterogeneous happiness functions

If the German division has left people from the former German Democratic Republic (GDR) and the former Federal Republic of Germany (FRG) with different attitudes and preferences, these differences should be reflected in their respective utility functions. One way of assessing these is by looking at the determinants of happiness or subjective well-being (SWB). Following in the footsteps of psychologists who have been studying self-reported happiness for over five decades, economists are increasingly investigating the factors underlying observed differences in SWB ratings.[4] The rapidly developing happiness

[4] Subjective well-being (SWB) can be defined as "a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction" (Diener et al., 1999, p. 277) and is often used interchangeably with happiness. There is a great deal of evidence showing the reliability and validity of measures of SWB: measured happiness correlates with the frequency of genuine, so-called Duchenne, smiling, and the ability to recollect pleasant memories. It is further associated with specific patterns of brain activation and cardiovascular activity, and predicts suicide risk (see, for example, Di Tella and MacCulloch, 2005, Diener et al., 1999, and Frey and Stutzer, 2002 and references therein).

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literature, both within and outside economics, has found a broad range of variables to be important correlates and causal determinants of happiness both at the individual and at the country level (Diener et al., 1999, and Frey and Stutzer, 2002 provide overviews). Happiness is a function of such factors as marital status and health, but also of economic circumstances like inflation, the unemployment rate, and, of course, income. The growing understanding of the causes and correlates of happiness has opened up the possibility to investigate differences between individuals, groups of people with a similar background, and even nations in the importance that they attach to various determinants of happiness.

Di Tella and MacCulloch (2005), for example, find that happiness is structured differently between left-wingers and right-wingers: both inflation and unemployment enter their respective happiness functions negatively, but left-wing individuals are bothered more by unemployment and bothered less by inflation relative to right-wing individuals. Lelkes (2006) reports that the effect of economic variables including income on happiness is smaller among the religious than among the non-religious. Finally, Finkelstein et al. (2009) use heterogeneous happiness functions to study the health-state dependence of the utility function. Using self-reported happiness to proxy for utility, they find that the marginal utility of consumption, as measured by the effect of the individual's consumption on his or her happiness rating, declines with deteriorating health. Di Tella and MacCulloch (2006, pp. 39–42) review some other applications of heterogeneous happiness functions to study differences in preferences.

An advantage of this approach to measuring differences in value dispositions above using values surveys is that it is less prone to mistake contextual, marginal preferences for general, underlying weights in preference functions (Maseland and van Hoorn, 2010). This means that we are able to overcome a major limitation of previous studies of a Communist value legacy. Moreover, the approach is less dependent on the availability of specific questions in values surveys; all that is needed is a happiness indicator that can be related to any set of background characteristics (cf. Di Tella and MacCulloch, 2006, p. 40). This allows us to obtain results in more domains and that are more reliable.

3.2. Hypotheses

In our analysis, we estimate the structure of happiness in order to derive insights about differences in attitudes between East and West Germans. Our reasoning is that if East Germans were to value, for instance, occupational status less, occupational status should have a smaller positive influence on the SWB of East Germans than of West Germans. We have the following hypothesis:

Hypothesis 1. If differences in value orientations exist between Eastern and Western Germany, the coefficients in happiness functions differ systematically between East and West Germans.

We are not interested in just any values differences between East and West Germans, but specifically in differences in those values that are generally associated with economic development. Thus, our second hypothesis is:

Hypothesis 2. If differences in value orientations are responsible for economic divergence between Eastern and Western Germany, East Germans should attach lower weight to those values that are seen as conducive to economic performance.

As stated, formally testing these hypotheses involves examining how situational factors such as being married, unemployed, or living in poor health differentially affect levels of happiness of Easterners and Westerners. Naturally, the focus is on economic variables such as income and employment status—if an economically debilitating Communist value legacy exists, these factors will not contribute much to the happiness of people born in East Germany.

4. Empirical strategy

4.1. Data

Our data come from the German Socio-Economic Panel (GSOEP) (see Wagner et al., 2007 for a discussion). The GSOEP project follows a representative sample of persons, nested in families and households since 1984, surveying them annually. Periodically, new respondents are added to the sample, and of the 5921 households containing 12,290 individual respondents originally included in 1984, 3476 households containing 6203 respondents were still in the sample in 2006. To this were added, among others, a sample of 2179 households with 4553 members from the former GDR (German Democratic Republic) in 1990. On occasion, respondents have further been asked about their place of residence before reunification, allowing us to create a dummy variable that distinguishes former GDR individuals from former FRG (Federal Republic of Germany) individuals. Since we are interested in values after reunification, in our analysis we only consider observations from the period 1991–2006. In addition, we drop all individuals who have missing answers on the GDR dummy and other independent variables, when applicable.

The GSOEP covers a plethora of issues such as childcare, education, economic characteristics, living situation, social participation, time allocation, and personal satisfaction. The dependent variable in our statistical analyses is life satisfaction, which we relate to data about the living conditions of respondents. This measure of SWB is given by the item in the GSOEP asking an individual how satisfied with life he or she is today. Answers to this question can be given on an 11-point scale ranging from "0—low" to "10—high". The answer categories are in discrete steps but to facilitate the intuitive understanding of our findings we follow the happiness literature in psychology and analyze this life satisfaction variable as though it is a

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continuous variable. As discussed by Ferrer-i-Carbonell and Frijters (2004), this cardinal interpretation will not materially affect our results.

Our independent variables follow from the literature on the economics of happiness and are known determinants of SWB. Since we are primarily interested in the idea that East and West Germans would differ from each other in ways that have economic consequences, the focus in the empirical analysis is on variables about work and income situation. These latter variables are Income (in 2000 constant Euros), Actual hours worked, occupational status (International Socio-Economic Index of Occupational Status; ISEI), level of Education, and employment status (whether one is Unemployed, Self-employed, a Blue collar worker, a White collar worker, a Civil servant, Out of the labor force, or Other).[5] Our models include the "usual suspects", well-established determinants of happiness (Diener et al., 1999; Frey and Stutzer, 2002), as control variables. These are marital status, gender, age, and health (as measured by dummies indicating whether one has an occupational disability or has stayed in the hospital in the previous year). To account for diminishing marginal utility of the continuous explanatory variables (income, actual working time, and occupational status) the natural logarithm is included in our regressions.[6] Correcting for nonlinearities in this way ensures that we estimate structural weights in the happiness function (cf. Maseland and van Hoorn, 2010) and that our method does not succumb to the problem of measuring marginal preferences suffered by values surveys and previous studies of cultural differences between East and West.

In the analysis below, we make a distinction between the general population, meaning the sample as a whole, and the working population, meaning individuals who at the time of observation earned a wage income and spend a non-zero amount of hours working. This choice of samples is practical, as we can only include cases with non-missing data on the independent variables when estimating our empirical models. Also, including only people belonging to the working population makes a lot of sense from the perspective of the economic divergence between Eastern and Western Germany, as it is located in the labor force (lower productivity levels and higher unemployment). For our robustness checks, we take both these samples but include only observations from individuals who spent their entire formative years (0–18) in either the GDR or the FRG.

To be sure, we are not interested in explaining differences in happiness levels between East and West, on which a large body of research exists already (e.g. Easterlin and Plagnol, 2008; Easterlin, 2009). Rather, we merely use the dependent and independent variables to systematically assess differences in value preferences between East and West Germans, specifically whether East Germans care less about economic circumstances such as having a job, being an entrepreneur, and the height of their income. Details of our method follow. Table 1 gives descriptive statistics on the variables used.

4.2. Model and estimation

The nature of the GSOEP data is such that there is variation in life satisfaction both within an individual (level 1) and across individuals (level 2). The level-1, within-subjects variance is due, among others, to changes in personal circumstances such as an increase or decrease in income or a change in one's health status. The level-2, between-subjects variance in happiness, on the other hand, is due to individual-specific factors that are time-invariant, most notably one's personality (see Diener et al., 1999, pp. 279–282 for an overview of genes and personality as determinants of SWB). Because our data is structured hierarchically, with repeated longitudinal observations nested within subjects, each individual observation is not independent, violating a standard assumption of (OLS) regression analysis. To control for this clustering and the downward bias in standard errors it gives rise to (e.g. Moulton, 1990), we use multilevel or hierarchical linear modeling (Gelman and Hill, 2007; Raudenbush and Bryk, 2002; Snijders and Bosker, 1999).

Multilevel modeling is the preferred statistical technique for three additional reasons (Gelman and Hill, 2007, pp. 6–8). Firstly, it enables us to estimate the SWB effect of within-subject factors and between-subject explanatory variables simultaneously. This way we avoid simply throwing together independent variables at different levels. Secondly, multilevel modeling gives us a proper way of dealing with cross-level interactions. Our goal is to estimate differences in values between East and West using heterogeneous happiness functions. Accordingly, in our multilevel model the time-invariant, dummy level-2 variable indicating whether the individual originally is an East (GDR) or a West German (FRG) moderates the SWB effect of level-1 factors such as income, employment status, and hours worked. Finally, the multilevel technique allows for more efficient variable inferences than would be possible with complete pooling of the data, and at the same time does not have the problem of overspecifying the model.

Multilevel modeling has previously been applied to analyses of the GSOEP data akin to ours. Lucas et al. (2004), for example, apply the method to study adaptation to unemployment using this panel. Multilevel modeling is used to deal with variability in SWB scores that is between subjects and variability in SWB that is within subjects and due to the individual falling unemployed. Their analysis indicates that changes in unemployment have a lasting impact on happiness but that substantial adaptation takes place so that the adverse happiness effect diminishes over time. Zimmermann and Easterlin

[5] These are dummies created using different items from the GSOEP. We classify a subject as "Out of the labor force" if in year t (s)he is neither unemployed, self-employed, nor active as a blue collar worker, a white collar worker, or a civil servant. The category "Other" are those persons to whom in year t—for whatever reasons, possibly a change in employment status during the year—multiple classifications apply, e.g. both Self-employed and Unemployed. This category is very small (see Table 1).

[6] Scores for Occupational status range from 16 (e.g. farmhand) to 90 (judges) with discrete one-point increments. We follow Di Tella et al. (2010) in treating it continuously and taking the natural logarithm.

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Table 1
Descriptive statistics.

Variable names and description	Number of observations	Mean and standard deviation		
		All	East	West
Dependent variable				
Satisfaction with life today (0–10)	260,352	6.94 (1.80)	6.44 (1.79)	7.14 (1.77)
Independent variables				
GDR (dummy, 1 = yes)	261,244	28.9% (45.3%)	–	–
Gender (0, female—1, male)	261,244	48.2% (50.0%)	47.3% (49.9%)	48.6% (50.0%)
Age [Years]	261,244	45.7 (17.2)	44.9 (17.1)	46.1 (17.3)
Hospital stay previous Year (dummy, 1 = yes)	243,740	11.8% (32.3%)	11.7% (32.1%)	11.9% (32.4%)
Occupational disability (dummy, 1 = yes)	242,982	11.4% (31.8%)	9.0% (28.6%)	12.3% (32.9%)
Marital status in survey year	261,244			
Married [base category]		62.0% (48.5%)	60.2% (49.0%)	62.8% (48.3%)
Married but separated		1.6% (12.5%)	1.5% (12.0%)	1.6% (12.6%)
Single		23.2% (42.2%)	24.5% (43.0%)	22.6% (41.8%)
Divorced		6.8% (25.1%)	7.6% (26.5%)	6.4% (24.5%)
Widowed		6.4% (24.5%)	6.2% (24.1%)	6.5% (24.7%)
Education [ISCED-1997-Classification]	257,417			
In school		1.9% (13.6%)	2.1% (14.5%)	1.8% (13.2%)
Inadequately		3.6% (18.5%)	1.1% (10.5%)	4.6% (20.9%)
General elementary [base category]		18.6% (38.9%)	11.0% (31.2%)	21.7% (41.2%)
Middle vocational		48.3% (50.0%)	53.2% (49.9%)	46.4% (49.9%)
Vocational with university entrance exam		4.2% (20.1%)	2.5% (15.7%)	4.9% (21.6%)
Higher vocational		7.1% (25.6%)	6.9% (25.4%)	7.1% (25.7%)
Higher education		16.4% (37.0%)	23.1% (42.2%)	13.6% (34.3%)
Employment status (at time of survey)	259,416			
Self-employed		5.5% (22.8%)	4.5% (20.8%)	5.9% (23.5%)
Blue collar worker		18.5% (38.8%)	19.8% (39.9%)	17.9% (38.3%)
White collar worker		26.3% (44.0%)	26.3% (44.1%)	26.2% (44.0%)
Civil servant		3.8% (19.1%)	1.7% (13.0%)	4.6% (21.0%)
Unemployed [base category]		6.5% (24.6%)	11.4% (31.8%)	4.5% (20.7%)
Other		0.5% (7.2%)	0.9% (9.4%)	0.4% (6.1%)
Out of the labor force		38.7% (48.7%)	35.0% (47.7%)	40.2% (49.0%)
Current net labor income [2000 constant Euros]	152,177	1,366 (1,154)	1,080 (708)	1,481 (1,273)
Actual weekly work time [h]	145,194	39.0 (12.6)	41.7 (11.0)	37.9 (13.0)
Occupational status [ISEI]	145,541	44.3 (16.0)	43.5 (15.6)	44.6 (16.2)

Note: Standard deviations in parentheses. Occupational status is measured by the International Socio-Economic Index of Occupational Status (ISEI) and is based on Ganzeboom and Treiman's (1996) recoding of individuals' ISCO88 occupational classification. Due to rounding and/or the combining of multiple GSOEP items (employment status; see Footnote 3) percentages may not add up to 100%. Because of missing observations, marital status excludes individuals whose spouse lives in his or her native country.

(2006) similarly use a multilevel technique to examine adaptation to changes in marital status, finding that, in the long run, the formation of marital or cohabiting unions raises happiness while their dissolution lowers it.

We have an individual j (Level 2) who is observed in year t (Level 1). LS_{tj} denotes the self-reported satisfaction with life of individual j at year t. GDR_j is a time-invariant dummy indicating whether a person is a West German (0) or an East German (1). This Level-2 variable can have both a direct effect on SWB, which is of no concern to us, and a moderating effect. The size of the moderating effect, which sheds light on a Communist value legacy, is captured by the interaction term $GDR_j \times X_{tj}$, where X_{tj} stands for all possible time-varying, level-1 explanatory variables. Typically X_{tj} comprises such personal characteristics as marital status and health but also factors that are more work-oriented such as income and occupational status. Including only the parameters relevant for the analysis of East–West differences in preferences, this yields the following Level-1 model (within subjects):

$$LS_{tj} = \beta_{0j} + \beta_{1j}x_{tj} + \varepsilon_{tj},$$

where β_{0j} is the intercept representing the average happiness of individual j, β_{1j} is the coefficient showing how much certain factors contribute or detract from individual j's happiness, and ε_{tj} is an error term. This is all standard. The difference comes with the Level-2 modeling of the parameters of the within-subjects model. The Level-2 model (between subjects) is specified as:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}GDR_j + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}GDR_j + u_{1j}$$

and the within- and between-subjects models combine to the following overall model:

$$LS_{tj} = \gamma_{00} + \gamma_{01}GDR_j + \gamma_{10}x_{tj} + \gamma_{11}(GDR_j \times x_{tj}) + [u_{0j} + u_{1j}x_{tj} + \varepsilon_{tj}] \quad (1)$$

In this model, γ_{00} is the mean intercept across all individuals, u_{0j} is an individual-specific error term representing deviations from this mean, and γ_{01} denotes the direct happiness effect of the dummy indicating whether individual j originally

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is an East or a West German. The model so far is called a varying or random intercepts model that takes into account unobserved heterogeneity in SWB levels (u_{0j}), which may be due to measurement errors, genes, or other time-invariant factors. Since both γ_{00} and γ_{01} refer to differences in *levels* of SWB and not to differences in the *structure* of SWB, we pay only scarce attention to them in the discussion of our results.

The specification for β_{1j} is analogous to that for β_{0j}. The parameter γ_{10} denotes the mean slope coefficient across all individuals for the Level-1, time-varying independent variables included in the model such as income, employment status and hours worked (x_{tj}), while u_{1j} is the individual-specific random deviation from this mean slope. The model thus allows the happiness effect of different factors to vary across individuals, which is called a random slopes or varying coefficients model. For the present study, the individual-specific deviations from the mean coefficients (u_{1j}) are of no concern, and we focus only on slope heterogeneity that is associated with being an East or a West German. This is captured by the parameter γ_{11}. If East Germans suffer a Communist value inheritance, we expect many sizable and statistically significant coefficients for the GDR interaction term ($\text{GDR} \times X_{tj}$). The estimate for γ_{11} thereby tells us how much more or less Easterners value certain situational factors than Westerners, whose valuation of these same factors is captured by the mean slope coefficient γ_{10}. We estimate the varying-intercepts, varying-coefficients model depicted in Eq. (1) using maximum likelihood.

5. Empirical findings

5.1. Basic results

We begin our analysis of the structure of happiness among East and West Germans by estimating two baseline models, which include Age, Gender, and Marital status as dependent variables, and comprise almost all individuals in the dataset (Table A.1 in Appendix A). Model A1 gives the coefficient estimates for the whole sample without differentiating between East and West Germans. Results match those known from the happiness literature. The simple differentiated model (Model A2) subsequently shows that a range of factors have a varying impact on life satisfaction among East and West Germans. The models are nested so that it we can use a likelihood-ratio test to assess whether allowing East–West heterogeneity in the structure of happiness improves model fit statistically significantly. This test shows that the decrease in −2Loglikelihood when moving from Model A1 to Model A2 is indeed statistically significant with $p < 0.01$ (where the value of the test statistic is 123.0 with a chi-square distribution and nine degrees of freedom). Concerning the size of the coefficients, the most noteworthy differences are that East Germans are happier outside marriage than West Germans and that they suffer less from Occupational disability. Being divorced, for example, hurts Easterners 0.176 happiness points less (on the 0–10 scale) than it does Westerners. As indicated in the table, this difference is statistically significant at $p < 0.01$. Similarly, having an occupational disability lowers the happiness of East Germans by almost 0.08 points less than it does the happiness of West Germans ($p < 0.05$). This heterogeneity in the structure of happiness might indicate differences in gender roles inherited from the Communist era, when social policy stimulated economic independence of women and facilitated separation and divorce (Kolinsky and Nickel, 2003). Also, these findings may reflect stronger structures of community support. Under Communist rule, East Germany is usually considered to have skipped the individualistic trend experienced by the West from the late 1960s onwards (Brodbeck and Frese, 2007). In addition, religion could be a factor in these East–West differences in the happiness effect of marital status, where a lower level of religiosity of East Germans reduces the social stigma associated with divorce.[7] As expected, there is also a substantial happiness gap between East and West (the gap is roughly 0.6; see also Table 1) but it again deserves emphasizing that for this paper we are only interested in heterogeneity in the structure of happiness and not in differences in levels. In the remainder, we no longer report level differences (nor intercepts).

More relevant for our purpose, further analysis reveals that variables relating to work, income and education also have different impacts on life satisfaction in Eastern and Western Germany. Table 2a shows the main results of a model for the general population (not including income and other job-related variables such as actual hours working).

The results in this table, specifically for Model 2, which is the differentiated model, can be taken to lend some support to the (cruder versions of the) "wall in the head" thesis. East Germans appear significantly happier to be Civil servants, which adds about 0.28 to their happiness (on top of the roughly 0.86 points it adds to the happiness of West Germans). This may, with some effort, be seen to fit prejudices about lack of motivation and initiative among people growing up in a Communist system. However, it is also shown that Easterners evaluate being a Blue collar worker, being a White collar worker, and being Self-employed more positively (though the latter not statistically significantly so). By elimination, the only possible conclusion is that, for East Germans, not belonging to the working population is more hurtful than for West Germans. In other words, it appears that regardless of the specific type of employment East Germans have a stronger preference for working (relative to being unemployed, which is the base category). Although this result contradicts the "wall in the head" thesis, it intuitively makes sense. A possible interpretation of this is that it reflects remnants of a work ideology instilled by Communism. Alternatively, the stronger Eastern German work ethic may be thought to represent structural differences in development between the East and West; a focus on work and material security is generally considered to diminish with

[7] We thank an anonymous referee for raising awareness for the possible role of differences in religiosity.

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Table 2a
Happiness functions and East–West differences in preferences, general population.

	Model 1	Model 2
In school	0.275*** (0.029)	0.229** (0.035)
In school * GDR	–	0.154** (0.059)
Inadequately	−0.057** (0.025)	−0.075** (0.027)
Inadequately * GDR	–	0.117 (0.075)
Middle vocational	0.064** (0.013)	0.054** (0.015)
Middle vocational * GDR	–	0.054* (0.031)
Vocational with university entrance exam	0.087*** (0.025)	0.061** (0.028)
Vocational with university entrance exam * GDR	–	0.148** (0.065)
Higher vocational	0.137** (0.022)	0.117** (0.025)
Higher vocational * GDR	–	0.096* (0.050)
Higher education	0.321** (0.020)	0.331** (0.024)
Higher education * GDR	–	−0.019 (0.046)
Self-employed	0.769** (0.022)	0.746** (0.027)
Self-employed * GDR	–	0.032 (0.049)
Blue collar worker	0.725** (0.015)	0.706** (0.020)
Blue collar worker * GDR	–	0.027 (0.031)
White collar worker	0.784** (0.015)	0.738** (0.020)
White collar worker * GDR	–	0.125** (0.031)
Civil servant	0.924** (0.030)	0.856** (0.034)
Civil servant * GDR	–	0.284** (0.076)
Other employment	0.196** (0.042)	0.251** (0.057)
Other employment * GDR	–	−0.184** (0.082)
Outside labor force	0.763*** (0.015)	0.732*** (0.019)
Outside labor force * GDR	–	0.071** (0.029)
−2Loglikelihood	842,820.1	842,772.5

Note: standard errors in parentheses. *, **, *** indicates significance at the 10%, 5%, 1% levels. All models include individual fixed effects in the form of varying intercepts. Excluded categories are "Unemployed" for employment status and "General elementary" for Education. Controls are Gender, Age, Age^2, Marital status, Hospital stay, Occupational disability and the GDR dummy (see Appendix A). Base category is a married West German woman without a job and with general elementary education, who has not had a hospital stay last year and does not suffer an occupational disability. Estimates are based on 32,239 between-subject and 236,828 within-subject observations.

rising incomes and levels of economic development (Inglehart, 1997). Less surprising are the differences in the SWB effects of education. Having enjoyed "only" vocational training (Middle vocational, Vocational with university entrance exam, or Higher vocational) is perceived much more positively among East Germans than among West Germans. This effect of having a degree from a career or trade school corresponds with the idea that Communist societies have high valuation of manual labor and craftsmanship. The negative coefficient for the higher education interaction term is also consistent with this, though it is small (−0.019 happiness points) and not statistically significant at usual levels.

Although these findings are interesting, it is likely that these results in part pick up the income effects of work and of education. For this reason, Table 2b provides the same analysis but with inclusion of income and other job-related variables. As mentioned above, the sample here is limited to individuals who, at the time of observation, belong to the working population. To keep sample size as large as possible, we have dropped the education variable for this table. Nevertheless, it

Table 2b
Happiness functions and East–West differences in preferences, working population.

	Model 3	Model 4
Monthly net labor market income (natural logarithm)	0.303*** (0.012)	0.263*** (0.014)
Monthly net labor market income * GDR	–	0.154*** (0.026)
Average actual work hours per week (natural logarithm)	−0.208*** (0.014)	−0.183*** (0.016)
Average actual work hours per week * GDR	–	−0.077** (0.034)
Occupational status (natural logarithm)	0.142*** (0.019)	0.116*** (0.022)
Occupational status * GDR	–	0.103** (0.042)
Self-employed	0.660*** (0.181)	0.308 (0.266)
Self-employed * GDR	–	0.471 (0.299)
Blue collar worker	0.546*** (0.180)	0.190 (0.265)
Blue collar worker * GDR	–	0.472 (0.296)
White collar worker	0.664*** (0.180)	0.304 (0.265)
White collar worker * GDR	–	0.486 (0.296)
Civil servant	0.811*** (0.182)	0.467* (0.267)
Civil servant * GDR	–	0.467 (0.305)
Other employment	0.089 (0.185)	−0.228 (0.272)
Other employment * GDR	–	−0.023 (0.096)
−2Loglikelihood	410,101.9	410,041.6

Note: see Table 2a. Base category is a married West German woman without a job, who has not had a hospital stay last year and does not suffer an occupational disability (see Appendix A). Estimates are based on 21,118 between-subject and 120,111 within-subject observations.

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is unavoidable that by adding job-related variables the number of between-subject observations is reduced by more than one-third and the number of within-subject observations by almost one-half.

Results are again mostly at odds with "wall in the head" conceptions. Contrary to what one might expect, East Germans seem more motivated by income than West Germans; the effect of income on their overall happiness is almost 60% higher than it is for Westerners (0.417 versus 0.263). This is in line with findings by van Praag et al. (2003) for Eastern and Western Germany. The same is true for one's occupational status, which has a coefficient of 0.116 for West Germans and for which the interaction term adds another 0.103 for East Germans ($p < 0.01$).[8] These findings suggest a higher level of materialism and achievement motivation in Eastern Germany rather than a lack of it. We should note, however, that Easterners' (Westerners') higher (lower) valuation of income may also partly reflect that for them, on average, the cost of living is lower (higher).[9] In contrast to these results, we also find that actual working time has a more negative effect for East Germans. With regard to hours worked, and hours worked only, there appears to be limited support for the claim that the economic gap between East and West is linked to differences in values and ideas.[10]

5.2. Robustness

Our robustness checks examine the possible role of two factors. The first of these is socialization; the second rather brief check concerns a possible multicollinearity problem due to the overlap between occupational status and the type of employment—Self-employed, Blue collar, White collar, or Civil servant, both of which involve a classification of the individual's occupation. The proposition that people originating from East and West Germany would have different values and conceptions is informed by the idea that society has an impact on the way people think and behave. We know from the values literature (e.g. Inglehart, 1997) that the impact of this socialization is strongest in people's formative years. Hence, we may expect that any differences in internalized values between East and West Germans are likely to be most profound among those groups that have spent their entire formative years in either the GDR or the FRG. Table B.1 in Appendix B gives the results of our baseline model, limiting the sample to individuals born between 1946 and 1971. Choosing this birth cohort ensures that we only include individuals born during Communist reign and who had reached adulthood by the time of the reunification. As in the baseline model that uses the whole sample (Appendix A, Table A.1), we observe basic differences among those originating from the GDR and those having grown up in the FRG. Compared to the homogeneous model, introducing East–West heterogeneity leads to statistically significantly improved model fit (likelihood-ratio test of Model B2 nested in Model B1; $p < 0.01$). The loss of happiness caused by experiencing a divorce, for example, is decidedly lower in Eastern Germany than in the West (−0.311 versus −0.181 happiness point). This is again an indication that gender roles and informal systems of communal support might be functioning differently in the so-called new states compared to the old states.

If we move to the effects of work-related variables (Table 3a), we find that limiting ourselves to the subsample of people born between 1946 and 1971 does not substantially alter the results (cf. Table 2a). Again, Easterners consistently value having a job higher than Westerners do, and this holds independent of type of employment. With regard to education, the more positive evaluation of having higher vocational training as highest education remains (plus 0.048 for Middle vocational, plus 0.205 for Vocational with university entrance exam, and plus 0.071 for Higher vocational), though the estimates for Model 6 are somewhat less precise than for Model 2 (which is expected given the smaller sample size). At the same time, not having finished any level of schooling appears much more problematic for East Germans than for West Germans, which previously it did not (−0.609 in Model 6 versus 0.117 in Model 2). This may be related to the fact that only very few East Germans born between 1946 and 1971 have obtained an inadequate level of education.

Limiting the working population sample by our birth year criterion does not substantially alter results either (Table 3b). Both income and status remain more important in the former GDR—the latter even more than doubly so, whereas Easterners also seem to value leisure more highly, though not statistically significantly so. The most striking result of this model is the higher valuation of Self-employment among those having spent their formative years in the GDR. Next to East Germans having a stronger preference for working in general, which is already contrary to what the "wall in the head" thesis would predict, this would suggest West Germans may actually lack in entrepreneurial spirit.

For the second robustness check, we examine whether our results for the (differential) happiness effects of occupational status and the different types of employment are sensitive to a possible multicollinearity problem resulting from the correlation between these two factors. Results depicted in Table C.1 in Appendix C show they are not. Relative to Model 4 (Table 2b) the statistical fit of the models decreases significantly as it logically should. Quantitatively we find that occupational status becomes a more important determinant of happiness with type of employment excluded, but that East Germans still value

[8] As indicated in Section 4, we have already corrected for possible nonlinearities in the income-happiness and the status-happiness relation so that these results cannot be explained by the fact that East Germans value higher incomes more because they currently earn less than West Germans do. In contrast to values surveys, our method is geared towards measuring structural weights in the happiness functions of Eastern and Western respondents rather than marginal preferences.

[9] We owe thanks to an anonymous referee for pointing this out.

[10] Note that whereas a lower preference for long working hours can be linked to economic performance, it is not clear beforehand why growing up in a communist system would make people value long working hours more negatively—to the contrary (see above). Hence, even this result provides only limited support for the "wall in the head" thesis.

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Table 3a
Happiness functions and East–West differences in preferences, general population born 1946–1971.

	Model 5	Model 6
In school	1.161*** (0.341)	1.156*** (0.341)
In school * GDR	–	
Inadequately	−0.125*** (0.041)	−0.111*** (0.042)
Inadequately * GDR	–	−0.609*** (0.218)
Middle vocational	0.112*** (0.021)	0.108*** (0.022)
Middle vocational * GDR	–	0.048 (0.057)
Vocational with university entrance exam	0.147*** (0.035)	0.125*** (0.038)
Vocational with university entrance exam * GDR	–	0.205* (0.107)
Higher vocational	0.160*** (0.030)	0.150*** (0.033)
Higher vocational * GDR	–	0.071 (0.078)
Higher education	0.363*** (0.028)	0.349*** (0.032)
Higher education * GDR	–	0.080 (0.072)
Self-employed	0.885*** (0.027)	0.870*** (0.034)
Self-employed * GDR	–	0.049 (0.059)
Blue collar worker	0.849*** (0.020)	0.835*** (0.026)
Blue collar worker * GDR	–	0.045 (0.040)
White collar worker	0.941*** (0.020)	0.916*** (0.026)
White collar worker * GDR	–	0.094** (0.041)
Civil servant	1.158*** (0.038)	1.106*** (0.043)
Civil servant * GDR	–	0.327*** (0.097)
Other employment	0.293*** (0.050)	0.397*** (0.070)
Other employment * GDR	–	−0.271*** (0.098)
Outside labor force	0.759*** (0.021)	0.785*** (0.027)
Outside labor force * GDR	–	−0.184*** (0.047)
−2Loglikelihood	422,478.8	422,400.8

Note: See Table 2a. Sample is limited to individuals born after 1945 and before 1972. Estimates are based on 15,028 between-subject and 120,658 within-subject observations. There are no East Germans born between 1946 and 1971 still in school.

Table 3b
Happiness functions and East–West differences in preferences, working population born 1946–1971.

	Model 7	Model 8
Monthly net labor market income (natural logarithm)	0.340*** (0.014)	0.291*** (0.017)
Monthly net labor market income * GDR	–	0.200*** (0.032)
Average actual work hours per week (natural logarithm)	−0.188*** (0.018)	−0.169*** (0.020)
Average actual work hours per week * GDR	–	−0.015 (0.042)
Occupational status (natural logarithm)	0.123*** (0.022)	0.092*** (0.026)
Occupational status * GDR	–	0.126** (0.050)
Self-employed	0.796*** (0.210)	0.256 (0.324)
Self-employed * GDR	–	0.706** (0.356)
Blue collar worker	0.700*** (0.209)	0.156 (0.323)
Blue collar worker * GDR	–	0.696** (0.353)
White collar worker	0.825*** (0.209)	0.292 (0.323)
White collar worker * GDR	–	0.659* (0.353)
Civil servant	0.996*** (0.212)	0.462 (0.325)
Civil servant * GDR	–	0.711** (0.363)
Other employment	0.298 (0.215)	−0.194 (0.331)
Other employment * GDR	–	0.035 (0.117)
−2Loglikelihood	299,369.8	299,298.2

Note: See Table 3a. Estimates are based on 13,389 between-subject and 88,069 within-subject observations.

status much more than West Germans do (0.279 versus 0.190). Similarly, the East–West difference in valuation of different types of employment remains roughly the same (Model 4 versus Model C2).

Overall, we conclude that our findings on East–West differences in preferences, specifically concerning market values, are robust. They are not sensitive to the sample of individuals included and do not depend on any particular model specification.

6. Discussion

We have scrutinized the thesis that four decades of division in Germany has caused an enduring legacy in terms of differences in attitudes and values. This so-called "wall in the head" is, in turn, thought to account for the continuing gap in economic performance between East and West. According to this thesis, East Germans lack the traits required for successfully operating in the market economy, such as the valuation of autonomy and materialism, a propensity to social recognition, risk taking and assuming responsibility, and a felt need for achievement. In our investigation of this propo-

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sition, we have followed a new strategy. Instead of relying on likely problematic values surveys for information about people's values and attitudes, we have constructed "utility" functions for representative East and West German respondents based on their scores on a measure of happiness. Since the set of main determinants of happiness is well-known, it is possible to compare the size of the effects of these determinants on happiness between respondents in East and West. Differences in the weights by which these determinants enter are what probably corresponds most closely to differences in preferences.

Following this approach, we show that for the period after reunification until 2006, there appear to be significant differences in preferences between East and West Germans. Eastern German "culture" turns out to be more favorable to being divorced or widowed, for example, which may reflect different gender, family and community roles between East and West. Also, with respect to economic values such as materialism and preferences for employment, our results suggest that East Germans differ from West Germans in ways that may be seen to reflect values instilled during Communism.

Although there are important differences between East and West, these differences generally do not correspond to what proponents of the "wall in the head" thesis might expect. Eastern German values do not stand out as less compatible with economic success in a market economy. Some do: our results suggest that East Germans appear to have a slightly greater dislike of hours spent working and seem to have a lower esteem for academic education relative to vocational education (associated with specific occupations), both of which may have negative effects on income and growth levels. The more fundamental results go against the "wall in the head" thesis though. Rather than being less motivated by income and occupational status, East Germans apparently attach much more importance to these factors than West Germans do. In addition, they appear to have a substantially higher preference for working (as opposed to being unemployed). All this does not indicate a lack of the motivation needed to perform well in a market economy. Even more at odds with the "wall in head" thesis, there is also some evidence that East Germans value being self-employed higher than West Germans do. We therefore conclude that a Communist inheritance in the form of less market-oriented values seems to be lacking. Although there are differences, Eastern German values appear to bear little relation to preconceptions about East Germans underlying the "wall in the head" thesis. If anything, our results suggest that East Germans have values that in many respects are more rather than less compatible with a market economy.

Alternative interpretations of our findings are also possible. One may argue, for instance, that the greater value East Germans attach to income and occupational status are due to a reference-group effect for which Easterners mainly compare themselves to Westerners who, on average, enjoy both higher income and higher status. Similarly, the variation in preferences may reflect unobserved differences in societal structure and informal institutions between the regions; possibly, being unemployed in Eastern Germany means something worse than being unemployed in West Germany. Such an account suggests that value differences can also have non-cultural sources and partially derive from social comparison. These possibilities do not change the finding that East Germans attach greater value to economic circumstances, however, let alone that they would provide any support for a values-based explanation of the persistent East–West gap in economic performance. Regardless of the origins of their preferences, the differences between East and West Germans that we observe do not portray a pattern that may be usefully related to economic divergence. All in all, it seems that the idea that differences in economic preferences and attitudes are behind the persistent differences in economic performance between Eastern and Western Germany does not have much basis. East is East and West is West, but the twain meet in unexpected ways.

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Appendix A. Baseline regressions

Table A.1.

Appendix B. Baseline regressions, sample born 1946–1971

Table B.1.

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Table A.1
Baseline model of heterogeneous happiness functions.

	Model A1	Model A2
Intercept	8.402*** (0.048)	8.357*** (0.055)
GDR dummy	−0.692*** (0.017)	−0.501*** (0.108)
Gender (female = 0)	−0.007 (0.015)	−0.001 (0.017)
Gender * GDR	–	−0.021 (0.034)
Age	−3.371*** (0.190)	−3.045*** (0.221)
Age * GDR	–	−1.397*** (0.433)
Age^2	2.145*** (0.188)	1.764*** (0.219)
Age^2 * GDR	–	1.659*** (0.432)
Married but separated	−0.570*** (0.026)	−0.630*** (0.031)
Married but separated * GDR	–	0.222*** (0.058)
Single	−0.231*** (0.017)	−0.245*** (0.019)
Single * GDR	–	0.057 (0.039)
Divorced	−0.314*** (0.019)	−0.364*** (0.023)
Divorced * GDR	–	0.176*** (0.042)
Widowed	−0.333*** (0.024)	−0.430*** (0.029)
Widowed * GDR	–	0.335*** (0.054)
Hospital stay (0 = No)	−0.220*** (0.009)	−0.211*** (0.011)
Hospital stay * GDR	–	−0.036* (0.020)
Occupational disability (0 = No)	−0.493*** (0.014)	−0.511*** (0.017)
Occupational disability * GDR	–	0.079** (0.034)
−2Loglikelihood	865,777.8	865,654.8

Note: Standard errors in parentheses. *, **, *** indicates significance at the 10%, 5%, 1% levels. All models include individual fixed effects in the form of varying intercepts. Excluded category for marital status is "Married" so that the base category is a married West German woman, who has not had a hospital stay last year and does not suffer an occupational disability. For scaling purposes, Age is divided by 100 and Age^2 by 10,000. Estimates are based on 32,362 between-subject and 241,891 within-subject observations.

Table B.1
Robustness of baseline model, sample born 1946–1971.

	Model B1	Model B2
Gender (female = 0)	−0.044** (0.021)	−0.063** (0.025)
Gender * GDR	–	0.072 (0.049)
Age	−3.178*** (0.531)	−4.367*** (0.605)
Age * GDR	–	5.365*** (1.264)
Age^2	0.541 (0.644)	1.790** (0.736)
Age^2 * GDR	–	−5.728*** (1.523)
Married but separated	−0.552*** (0.029)	−0.618*** (0.0350)
Married but separated * GDR	–	0.220*** (0.064)
Single	−0.232*** (0.021)	−0.246*** (0.024)
Single * GDR	–	0.050 (0.052)
Divorced	−0.271*** (0.022)	−0.311*** (0.026)
Divorced * GDR	–	0.130*** (0.048)
Widowed	−0.447*** (0.060)	−0.679*** (0.074)
Widowed * GDR	–	0.672*** (0.125)
Hospital stay (0 = No)	−0.163*** (0.013)	−0.150*** (0.015)
Hospital stay * GDR	–	−0.052* (0.030)
Occupational disability (0 = No)	−0.505*** (0.024)	−0.517*** (0.028)
Occupational Disability * GDR	–	0.050 (0.056)
−2Loglikelihood	432,796.0	432,715.7

Note: See Appendix A, Table A.1. Sample is limited to individuals born after 1945 and before 1972. Estimates are based on 15,080 between-subject and 122,633 within-subject observations.

Appendix C. Robustness of East–West differences in the evaluation of occupational status and type of employment

Table C.1.

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Table C.1
Robustness of East–West differences in the valuation of occupational status and type of employment.

	Model C1	Model C2
Monthly net labor market income (natural logarithm)	0.285*** (0.014)	0.277*** (0.013)
Monthly net labor market income * GDR	0.176*** (0.025)	0.163*** (0.026)
Average actual work hours per week (natural logarithm)	−0.177*** (0.016)	−0.184*** (0.016)
Average actual work hours per week * GDR	−0.046 (0.033)	−0.078** (0.034)
Occupational status (natural logarithm)	0.190*** (0.020)	–
Occupational status * GDR	0.089** (0.039)	–
Self-employed	–	0.317 (0.266)
Self-employed * GDR	–	0.467 (0.299)
Blue collar worker	–	0.163 (0.265)
Blue collar worker * GDR	–	0.449 (0.296)
White collar worker	–	0.312 (0.265)
White collar worker * GDR	–	0.489* (0.296)
Civil servant	–	0.495* (0.267)
Civil servant * GDR	–	0.480 (0.304)
Other employment	–	−0.239 (0.272)
Other employment * GDR	–	−0.019 (0.096)
−2Loglikelihood	410,254.6	410,106.8

Note: See Table 2b.

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